COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

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GRACE ROBINSON HYDE
Chief Engineer and General Manager

September 19, 2019
File No. 31-320.10

Via Electronic Mail
Mr. Chris Marks
Denali Water Solutions
2001 West Key Street
Colton, CA 92324

Dear Mr. Marks:

Transmittal of LACSD JWPCP Biosolids Monitoring Report

Attached please find the LACSD JWPCP Biosolids Monitoring Report for July 2019. The Report includes the following data for your files:

Biosolids
- total and soluble metals
- digester performance
- detected priority pollutants
- miscellaneous constituents

I certify, under penalty of law, that the Class B pathogen reduction requirements in 503.32(b)(3) and the vector attraction reduction requirements in 503.33(b)(1) have been met. These determinations have been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

I certify, under penalty of law, that the biosolids are non-hazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Attached are the analytical test results from LACSD/Contract Labs in accordance with CCR Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II, and from Test America in accordance with Arizona Administrative Code Title 18, Chapter 9, Article 10, Section 18-9-1012.

Should you have any further questions or require additional information, please contact Jorge Montezuma at (562) 908-4288, extension 2809.

Very truly yours,

Matthew J. Bao
Supervising Engineer
Reuse and Compliance

MJB:GS:nm
Attachments

DM#4916261

Notice and Necessary Information

To be Completed by Preparers of Class B Biosolids

Facility Name: Joint Water Pollution Control Plant (JWPCP) Monitoring Period: 07/01/2019 to 07/31/2019

1. Pollutant and Nitrogen concentrations (report results in mg/kg on a 100% dry weight basis. Attach lab analyses).

	As	Cd	Cu	Pb	Hg	Mo	Ni	Se	Zn	Org-N	NH_3-N	% solids
Result	7.45	6.3	372	15.6	0.52	24.7	42.4	35.8	811	48,900	5,390	27.8
Table 3	41	39	1500	300	17	na	420	100	2800	na	na	na
Table 1	75	85	4300	840	57	75	420	100	7500	na	na	na

Sampling date(s): 07/09/19 Sample Number(s): 19071000284

2. Class B Pathogen Reduction: (Check off and fill in applicable portion)

__√__ anaerobic for 19 days at 35.7 °C (96.3 °F) (range for past month)
Class B: either 15 days at 35°C to 55°C or 60 days at 20°C
___ aerobic digestion for ____to ____ days at _____to ____ degrees F / C (range for past month)
Class B: time (days) ≥ 20 - 15(temp, degrees C) for times between 40 and 60 days
___ drying beds for ____to_____ months (attach records of dates in and out)
Class B: time > 3 months; 2 months > 0 degrees C
___ fecal coliform: geometric mean of seven samples = _____ (attach lab results)
Class B: geometric mean of seven samples is < 2,000,000 mpn
___ lime stabilization: pH at 2 hours after addition = _____
Class B: pH 2 hours after addition of lime is ≥ 12

3. Vector Attraction Reduction:

__√__ Option 1: % VS_{in} = 74 % VS_{out} = 59 % VSR = 51 % per Van Kleeck method
VAR: VSR > 38%
____ Option 2/3: Bench scale test: % VSR = _____ after ____ days
VAR: additional VSR < 17% after 40 days (anaerobic), < 15% after 30 days (aerobic)
____ Option 4: SOUR = _____
VAR: SOUR < 1.5 mg O_2/hr/gram (dry weight)
____ Option 5: Composted _____ days at temps of _____ to _____degrees F/C (attach times/temps)
VAR: temp > 40 degrees C for 14 days, w/5 days > 45 degrees C
____ Option 6: time alkali added: _____ pH after 2 hours = ___ pH after 22 hours = ___
VAR: pH ≥ 12 for 2 hours after alkali addition, ≥ 11.5 for additional 22 hrs
____ Option 7: % solids = _____ Stabilization method: _____
VAR: stabilized solids > 75%
____ Option 8: % solids = _____
VAR: unstabilized solids > 90%
____ Option 9/10: Applier will inject/incorporate within _____ hours
VAR: injection within 1 hour, incorporation within 6 hours

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title: Matthew J. Bao - Supervising Engineer

Phone: (562) 908-4288 Extension 2824 E-mail: mbao@lacsd.org

Signature: _____ Date: 9/20/19

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake -Total Metals Concentrations
mg/kg Dry Weight

Sample No.	Date	% TS	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	Al
19010900294	1/8/2019	28.1	8.79	5.0	103	322	15.7	0.61	23.9	44.2	29.8	755	7,710
19021300240	2/12/2019	28.6	9.19	5.7	104	318	18.4	0.59	20.4	46.7	28.4	766	-
19030600205	3/5/2019	27.9	8.09	6.8	116	330	16.7	0.95	19.0	47.7	27.1	736	-
19040300301	4/2/2019	27.9	7.74	6.6	105	311	15.4	0.72	22.2	48.6	31.4	751	7,540
19050800316	5/7/2019	29.3	8.36	4.5	106	310	15.2	0.67	24.6	47.8	25.1	717	-
19060500257	6/4/2019	28.4	7.54	4.3	96.6	322	19.3	0.74	29.9	40.6	29.6	706	-
19071000284	7/9/2019	27.8	7.45	6.3	103	372	15.6	0.52	24.7	42.4	35.8	811	8,980
MEAN		**28.3**	**8.17**	**5.6**	**105**	**326**	**16.6**	**0.69**	**23.5**	**45.4**	**29.6**	**749**	**8,080**
MAX			**9.19**	**6.8**	**116**	**372**	**19.3**	**0.95**	**29.9**	**48.6**	**35.8**	**811**	**8,980**
TABLE 1 LIMITS		\	**75**	**85**	\	**4,300**	**840**	**57**	**75**	**420**	**100**	**7,500**	\
TABLE 3 LIMITS		\	**41**	**39**	\	**1,500**	**300**	**17**	\	**420**	**100**	**2,800**	\

Sample No.	Date	% TS	Sb	Ba	Be	Co	Fe	Mn	K	Ag	Tl	Sn	V
19010900294	1/8/2019	28.1	3.8	1,290	0.081	6.88	97,200	226	990	3.1	< 0.20	48.8	59.5
19021300240	2/12/2019	28.6	-	-	-	-	-	-	-	-	-	-	-
19030600205	3/5/2019	27.9	-	-	-	-	-	-	-	-	-	-	-
19040300301	4/2/2019	27.9	4.0	1,210	0.087	7.39	90,600	208	998	3.4	< 0.20	58.0	64.6
19050800316	5/7/2019	29.3	-	-	-	-	-	-	-	-	-	-	-
19060500257	6/4/2019	28.4	-	-	-	-	-	-	-	-	-	-	-
19071000284	7/9/2019	27.8	3.7	1,150	0.081	6.01	91,300	218	1,000	3.3	< 0.20	75.5	58.8
MEAN		**28.3**	**3.8**	**1,220**	**0.083**	**6.76**	**93,000**	**217**	**996**	**3.3**	**ND**	**60.8**	**61.0**
MAX			**4.0**	**1,290**	**0.087**	**7.39**	**97,200**	**226**	**1,000**	**3.4**	**ND**	**75.5**	**64.6**

\ = No limit
ND = Not Detected
Statistics use detected values only

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Nutrients and Miscellaneous Constituents
mg/kg Dry Weight (or as indicated)

Sample No.	Date	% TS	Sulfur	PO_4	NH_3-N	Org-N	NO_3-N	NO_2-N	Boron	pH
19010900294	1/8/2019	28.1	32,000	78,100	6,640	48,400	< 141	< 3.56	27.7	8.2
19021300240	2/12/2019	28.6	30,700	-	6,180	46,500	< 137	4.32	-	-
19030600205	3/5/2019	27.9	26,500	-	6,310	46,500	< 143	< 3.58	-	-
19040300301	4/2/2019	27.9	29,900	82,300	5,960	50,000	< 143	< 3.58	27.8	8.2
19050800316	5/7/2019	29.3	33,800	-	5,440	49,600	< 135	< 3.41	-	-
19060500257	6/4/2019	28.4	32,200	-	6,910	47,900	< 141	< 3.53	-	-
19071000284	7/9/2019	27.8	35,100	81,400	5,390	48,900	< 142	< 3.59	25.8	8.1
MEAN		**28.3**	**31,500**	**80,600**	**6,120**	**48,300**	**70**	**2.19**	**27.1**	**8.2**
MAX			**35,100**	**82,300**	**6,910**	**50,000**	**72**	**4.32**	**27.8**	**8.2**

ND = Not Detected
Statistics use detected values only.

3rd Quarter BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Soluble Metals Concentrations - mg/L
Analyzed by California Title 22 Waste Extraction Test

Sample No.	Date	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe
19010900297	1/8/2019	159	0.05	0.12	26.2	< 0.01	< 0.005	1.28	0.10	< 0.10	2,290
19040300303	4/2/2019	149	0.06	0.10	24.1	< 0.01	< 0.005	1.35	0.10	< 0.10	2,060
19071000287	7/9/2019	198	0.03	0.06	36.3	< 0.01	< 0.005	1.33	0.07	< 0.10	2,030
MEAN		**169**	**0.05**	**0.09**	**28.9**	**ND**	**ND**	**1.32**	**0.09**	**ND**	**2,130**
MAX		**198**	**0.06**	**0.12**	**36.3**	**ND**	**ND**	**1.35**	**0.10**	**ND**	**2,290**
TITLE 22 STLCs		****	**15**	**5.0**	**100**	**0.75**	**1**	**5**	**80**	**25**	****

Sample No.	Date	Pb	Hg	Mo	Ni	K	Se	Ag	Tl	Sn	V	Zn
19010900297	1/8/2019	0.03	< 0.0015	0.29	< 1.00	< 50.0	0.03	< 0.02	< 0.04	< 0.04	1.13	8.80
19040300303	4/2/2019	0.03	< 0.001	0.25	< 1.00	< 50.0	0.04	< 0.02	< 0.04	< 0.04	1.19	8.24
19071000287	7/9/2019	0.01	< 0.0005	0.11	< 1.00	< 50.0	0.05	< 0.02	< 0.04	< 0.04	1.15	14.3
MEAN		**0.02**	**ND**	**0.22**	**ND**	**ND**	**0.04**	**ND**	**ND**	**ND**	**1.16**	**10.40**
MAX		**0.03**	**ND**	**0.29**	**ND**	**ND**	**0.05**	**ND**	**ND**	**ND**	**1.19**	**14.30**
TITLE 22 STLCs		**5.0**	**0.2**	**350**	**20**	****	**1.0**	**5**	**7.0**	****	**24**	**250**

ND = Not Detected
\ = No Limit
Statistics use detected values only.

2019 BIOSOLIDS MANAGEMENT PROGRAM

JWPCP Digester Performance

Month	Temp (°F)	Detention Time (Days)	VSD (%)
January	96.1	20	53
February	96.0	20	54
March	96.1	19	54
April	96.1	19	51
May	96.1	19	54
June	96.2	21	52
July	96.3	19	51
August			
September			
October			
November			
December			
MEAN	**96.1**	**20**	**53**
MIN	**96.0**	**19**	**51**

Semi-Annual JWPCP Biosolids Cake
Detected Priority Pollutants
mg/kg on a Dry Weight Basis

Date	1/8/19	7/9/19
Sample Numbers	19010900294	43473
	19010900295	19071000285
Constituent	**Result (mg/kg)**	**Result (mg/kg)**
Arsenic	8.79	7.45
Cadmium	5.0	6.3
Chromium	103	103
Copper	322	372
Lead	15.7	15.6
Mercury	0.61	0.52
Nickel	44.2	15.6
Selenium	29.8	35.8
Silver	3.1	3.3
Zinc	755	811
Antimony	3.8	3.7
Total Cyanide	4.22	1.96
Diethylhexyl Phthalate	35.9	44.7